2019–2020 NC Final Exam of NC Math 2

North Carolina Assessment Specifications

Purposes of the Assessments

The NC Final Exam (NCFE) for NC Math 2 measures students' academic progress on the North Carolina Standard Course of Study for Mathematics, adopted by the North Carolina State Board of Education (SBE) in June 2016.

NC State Board of Education policy TEST-016 directs schools to use the results from all course-specific NCFEs as a minimum of 20% of the student's final course grade.

NCFEs are not used for school and district accountability under the Accountability Model or for federal reporting purposes.

Developing Assessments

North Carolina educators are recruited and trained to write new items for the NCFEs. The diversity among the item writers and their knowledge of the content standards are addressed during recruitment. Trained North Carolina educators also review items and suggest improvements, if necessary. The use of North Carolina educators to develop and review items strengthens the instructional validity of the items. Teachers interested in training to become an item writer or a reviewer for the North Carolina Testing Program can visit https://center.ncsu.edu/ncpd/course/view.php?id=128.

For an in-depth explanation of the test development process see SBE policy TEST-013 or reference the *Test Development Process: Item, Selection, and Form Development*.

Curriculum and Assessment Cycle

2003: North Carolina SBE adoption of the Standard Course of Study.

2012–2013: Operational administration of the Measures of Student Learning: Common Exams
2013–14: Redesign and subsequent first operational administration of the NCFEs.
2014–15: Second operational administration of the NCFEs.
2015–16: Third operational administration of the NCFEs.
2016–17: Fourth operational administration of the NCFEs.
2017–18: Fifth operational administration of the NCFEs.
2018–19: Sixth operational administration of the NCFEs.
2019–20: Seventh operational administration of the NCFEs.

Prioritization of Standards

Members of the North Carolina Department of Public Instruction's (NCDPI) Test Development Section invited teachers to collaborate and develop recommendations for a

prioritization of the standards indicating the relative importance of each standard, the anticipated instructional time, and the appropriateness of the standard for multiple-choice items.

Table 1 describes the percentage range of score points associated with each content category that will appear on the NCFE. The table of test specification weights describes the percent of total score points.

Table 1. *Test Specification Weights for the NC Math 2 NCFE*

Domain	Percent of Total Score Points
Number and Quantity	3% to 10%
The Real Number System (RN)	
The Complex Number System (CN)	
Algebra	21% to 28%
Seeing Structure in Expressions (SSE)	
Arithmetic with Polynomials & Rational Expressions (APR)	
Creating Equations (CED)	
Reasoning with Equations & Inequalities (REI)	
Functions	18% to 25%
Interpreting Functions (IF)	
Building Functions (BF)	
Geometry	27% to 34%
Congruence (CO)	
Similarity, Right Triangles, & Trigonometry (SRT)	
Expressing Geometric Properties with Equations (GPE)	
Geometric Measurement and Dimension (GMD)	
Modeling with Geometry (MG)	
Statistics and Probability	15% to 22%
Making Inferences & Justifying Conclusions (IC)	
Conditional Probability and the Rules of Probability (CP)	
Total	**100%**

Cognitive Rigor

The NC Math 2 items were aligned to the content standards and classified using Webb's Depth of Knowledge (DOK) Model.

Types of Items and Supplemental Materials

The NC Math 2 NCFEs consists of four-response-option multiple-choice items.

Students will be provided a graphing calculator.

Students will be provided graph and blank paper.

A complete list of the supplemental test materials (i.e., *2019–2020 NC Final Exams Materials List*) may be reviewed at the NCDPI/Accountability Services website.

Released items are available on the NCDPI/Accountability Services Website. Released items may be used by school systems to help acquaint students with items. The released items, however, may not reflect the breadth of the standards assessed and/or the range of item difficulty found on the NCFE. These materials must not be used for personal or financial gain. The released items are also available to schools through NCTest, the NCDPI's online assessment platform.

Schools must ensure every student participating in an online assessment for the North Carolina Testing Program has completed the appropriate Online Assessment Tutorial for the associated assessment(s) at least one time per year at the school before test day. The tutorial provides students the opportunity to practice the mechanics of navigating through the testing platform, to become familiar with the tools, and to respond to the sample items. Refer to the Online and Paper/Pencil Test Administrator's Guide for additional information.

Testing Structure and Test Administration Time

The NC Math 2 NCFE has 37 assessment items.

Included in the total item counts are embedded multiple-choice field test items that will not count toward or against a student's score. These items are examined for inclusion on future operational assessments.

NC Final Exam 2019-20	Number of Operational Items	Number of Field Test Items	Total Number of Items
NC Math 2	33 multiple-choice	4 multiple-choice	37

*Field test items will not count toward or against the student's score but will be used for purposes of developing items for future test forms.

Students have 120 minutes to respond to all items.

Appendix A shows the number of operational items for each standard for the 2019–2020 tests. Note that future coverage of standards could vary within the constraints of the content category weights in Table 1.

Test Cycle and Delivery Mode

The NCFEs are administered to students enrolled in fall and spring courses. A list of course codes that align with the 2019–20 NCFEs (i.e., *Course Codes that Align with the NC Final Exams*) is available on the NCDPI/Accountability Services website.

The NCFEs are administered through NCTest, the NCDPI's online assessment platform. Paper editions are also available.

The NCFEs are only provided in English; translated versions are not available.

Appendix A
NC Math 2 NC Final Exam 2019–20
Number of Operational Items by Standard

The following table shows the number of operational items for each standard. Note that future coverage of standards could vary within the constraints of the content category weights in Tables 1 and 2. Some standards not designated with tested items (i.e., "–") may be a prerequisite standard, may be tested within the context of another standard, or may be included as an embedded field test item.

NC Math 2 Standard (High School)	Number of Operational Items Per Standard*
Number and Quantity	
The Real Number System	
N-RN.1	–
N-RN.2	1
N-RN.3	1
The Complex Number System	
N-CN.1	–
Algebra	
Seeing Structure in Expressions	
A-SSE.1	1
A-SSE.3	1
Arithmetic with Polynomials & Rational Expressions	
A-APR.1	–
Creating Equations	
A-CED.1	1
A-CED.2	1
A-CED.3	–
Reasoning with Equations & Inequalities	
A-REI.1	–
A-REI.2	–
A-REI.4	2
A-REI.7	1
A-REI.11	1
Functions	
Interpreting Functions	
F-IF.1	–
F-IF.2	1
F-IF.4	1
F-IF.7	2

F-IF.8	–
F-IF.9	1
Building Functions	
F-BF.1	1
F-BF.3	1
Geometry	
Congruence	
G-CO.2	–
G-CO.3	1
G-CO.4	–
G-CO.5	1
G-CO.6	–
G-CO.7	–
G-CO.8	1
G-CO.9	1
G-CO.10	1
Similarity, Right Triangles, & Trigonometry	
G-SRT.1	–
G-SRT.2	1
G-SRT.3	–
G-SRT.4	2
G-SRT.6	–
G-SRT.8	1
G-SRT.12	1
Statistics and Probability	
Making Inferences & Justifying Conclusions	
S-IC.2	1
Conditional Probability and the Rules of Probability	
S-CP.1	1
S-CP.3	–
S-CP.4	1
S-CP.5	1
S-CP.6	1
S-CP.7	–
S-CP.8	1

***** Some standards not designated with tested items (i.e., "–") may be a prerequisite standard, may be tested within the context of another standard or may be included as an embedded field test item.